

CLAIMS

What is claimed is:

- 1 1. An apparatus comprising:
 - 2 a table to store a plurality of entries for a packet in a sequence of packets of a message transmitted from a first network to a second network, the entries including a first connection identifier corresponding to the first network, the entries being obtained from a description file of the packet; and
 - 7 a parser coupled to the table to parse the sequence of packets using the table, the parser extracting the first connection identifier.
- 1 2. The apparatus of claim 1 further comprises:
 - 2 a translator coupled to the parser to translate the first connection identifier into a second connection identifier corresponding to the second network.
- 1 3. The apparatus of claim 2 wherein the table comprises:
 - 2 at least a message type entry to specify a message type characterizing the message; and
 - 4 at least a data type entry to specify a data type of a subsequent packet in the sequence of packets.
- 1 4. The apparatus of claim 3 wherein the at least data type entry indicates a location of the first connection identifier in the subsequent packet.

1 5. The apparatus of claim 3 wherein the at least data type entry
2 comprises a termination entry to indicate that a remaining portion of the sequence
3 of packets does not contain the first connection identifier.

1 6. The apparatus of claim 5 wherein the parser skips the remaining
2 portion of the sequence of packets upon recognizing the termination entry.

1 7. The apparatus of claim 1 wherein the first connection identifier is
2 one of an address and a port identifier.

1 8. The apparatus of claim 2 wherein the second connection identifier
2 is one of an address and a port identifier.

1 9. The apparatus of claim 1 wherein the first network is one of a
2 private network and a public network.

1 10. The apparatus of claim 1 wherein the second network is one of a
2 private network and a public network.

1 11. The apparatus of claim 1 wherein the description file is an abstract
2 syntax notation (ASN) file.

1 12. The apparatus of claim 11 wherein the table is generated by an
2 ASN compiler.

1 13. A method comprising:

2 storing in a table a plurality of entries for a packet in a sequence of
3 packets of a message transmitted from a first network to a second network,
4 the entries including a first connection identifier corresponding to the first
5 network, the entries being obtained from a description file of the packet;
6 and

7 parsing the sequence of packets using the table, the parser
8 extracting the first connection identifier.

1 14. The method of claim 13 further comprises:

2 translating the first connection identifier into a second connection
3 identifier corresponding to the second network.

1 15. The method of claim 14 wherein storing comprises:

2 specifying a message type characterizing the message by at least a message
3 type entry; and

4 specifying a data type of a subsequent packet in the sequence of packets by
5 at least a data type entry.

1 16. The method of claim 15 wherein the at least data type entry
2 indicates a location of the first connection identifier in the subsequent packet.

1 17. The method of claim 15 wherein the at least data type entry
2 comprises a termination entry to indicate that a remaining portion of the sequence
3 of packets does not contain the first connection identifier.

1 18. The method of claim 17 wherein parsing comprises skipping the
2 remaining portion of the sequence of packets upon recognizing the termination
3 entry.

1 19. The method of claim 13 wherein the first connection identifier is
2 one of an address and a port identifier.

1 20. The method of claim 14 wherein the second connection identifier is
2 one of an address and a port identifier.

1 21. The method of claim 13 wherein the first network is one of a
2 private network and a public network.

1 22. The method of claim 13 wherein the second network is one of a
2 private network and a public network.

1 23. The method of claim 13 wherein the description file is an abstract
2 syntax notation (ASN) file.

1 24. The method of claim 23 wherein the table is generated by an ASN
2 compiler.

1 25. A computer program product comprising:

2 a machine useable medium having computer program code
3 embedded therein, the computer program product having:

4 computer readable program code to store in a table a plurality of
5 entries for a packet in a sequence of packets of a message transmitted from
6 a first network to a second network, the entries including a first connection
7 identifier corresponding to the first network, the entries being obtained
8 from a description file of the packet; and

9 computer readable program code to parse the sequence of packets
10 using the table, the parser extracting the first connection identifier.

1 26. The computer program product of claim 25 further comprises:

2 computer readable program code to translate the first connection identifier
3 into a second connection identifier corresponding to the second network.

1 27. The computer program product of claim 26 wherein the computer
2 readable program code to store comprises:

3 computer readable program code to specify a message type characterizing
4 the message by at least a message type entry; and

5 computer readable program code to specify a data type of a subsequent
6 packet in the sequence of packets by at least a data type entry.

1 28. The computer program product of claim 27 wherein the at least
2 data type entry indicates a location of the first connection identifier in the
3 subsequent packet.

1 29. The computer program product of claim 27 wherein the at least
2 data type entry comprises a termination entry to indicate that a remaining portion
3 of the sequence of packets does not contain the first connection identifier.

1 30. The computer program product of claim 29 wherein the computer
2 readable program code to parse comprises computer readable program code to
3 skip the remaining portion of the sequence of packets upon recognizing the
4 termination entry.

1 31. A system comprising:
2 an end node in a first network to communicate a message to a
3 second network; and
4 a router coupled to the end node to route the message, the router
5 including a network address translation (NAT) processor, the NAT
6 processor comprising:
7 a table to store a plurality of entries for a packet in a sequence of
8 packets of the message, the entries including a first connection
9 identifier corresponding to the first network, the entries being
10 obtained from a description file of the packet, and
11 a parser coupled to the table to parse the sequence of packets using
12 the table, the parser extracting the first connection identifier.

1 32. The system of claim 31 wherein the NAT processor further
2 comprises:

3 a translator coupled to the parser to translate the first connection identifier
4 into a second connection identifier corresponding to the second network.

1 33. The system of claim 32 wherein the table comprises:

2 at least a message type entry to specify a message type characterizing the
3 message; and

4 at least a data type entry to specify a data type of a subsequent packet in
5 the sequence of packets.

1 34. The system of claim 33 wherein the at least data type entry
2 indicates a location of the first connection identifier in the subsequent packet.

1 35. The system of claim 33 wherein the at least data type entry
2 comprises a termination entry to indicate that a remaining portion of the sequence
3 of packets does not contain the first connection identifier.

1 36. The system of claim 35 wherein the parser skips the remaining
2 portion of the sequence of packets upon recognizing the termination entry.